

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Method of communicating a communication fragment—(211), the communication fragment comprising a first target address reference referring to a group address referring to of at least one two receiver device (203) devices, comprising the steps of the method comprising acts of:

[[-]] a sender device (201) adding a cryptographic message integrity code to protect at least part of the communication fragment, wherein the cryptographic message integrity code is at least partly based on the target group address,

[[-]] the sender device transmitting the protected communication fragment to a router device (202),

[[-]] the router device, for at least one receiver device referred to in the group of target devices group address, modifying replacing the first target group address reference into with an address of the at least one receiver device forming a modified protected communication fragment, while maintaining the unchanged

cryptograph message integrity code, and subsequently forwarding the modified protected communication fragment ~~(213)~~ to the at least one receiver device,

[[-]] the at least one receiver device receiving the modified protected communication fragment,

[[-]] the at least one receiver device restoring the original protected communication fragment in order by replacing the address of the at least one receiver device with the target group address to allow verification of the ~~original~~ protected communication fragment using the message integrity code.

2. (Currently amended) ~~Method~~ The method according to claim 1, wherein the first communication fragment comprises a bit field IA to indicate whether indirect addressing is used.

3. (Currently amended) ~~Method~~ The method according to claim 1, wherein the sender device and the at least one receiver device share a common cryptographic key which is not shared with the router, and where the cryptographic message integrity code is computable and verifiable only by using the common cryptographic key.

4. (Currently amended) ~~Method~~ The method according to claim 3, wherein the common cryptographic key is used to encrypt the message content.

5. (Currently amended) ~~Method~~ The method according to claim 1, wherein the at least one receiver device restores the original protected communication fragment ~~by substituting the first target address reference by replacing the address of the at least one receiver device with each of the a plurality of group identities that comprises include the sender device to determine for which of the plurality of group identities the message integrity code matches.~~

6. (Currently amended) ~~Method~~ The method according to claim 1, wherein

[[-]] the router device, ~~in the step of modifying~~ wherein the act of replacing the first target group address reference, stores comprises an act of storing the first target address reference in the modified protected communication fragment, and

[[-]] the at least one receiver device restores the original

protected communication fragment using the stored first target address reference in the modified protected communication fragment in order to allow verification of the message integrity code.

7. (Currently amended) Sender device ~~(201)~~ being arranged to transmit a communication fragment through a router device ~~(202)~~ towards a receiver device ~~(203)~~, the communication fragment ~~(211)~~ comprising a first target group address reference referring to a group of at least one two receiver devices, the sender device comprising:

[[-]] protecting means ~~(221)~~ being arranged to add a cryptographic message integrity code to protect at least part of the communication fragment, wherein the cryptographic message integrity code is at least partly based on the target group address and a cryptographic key, and

[[-]] transmitting means ~~(222)~~ begin being arranged to transmit the communication fragment to a receiver device through a router device that is not able to modify the cryptographic message integrity code and that does not have access to the cryptographic key.

8. (Currently amended) Router device ~~(202)~~ being arranged to route a communication fragment ~~(211)~~ from a sender device towards a receiver device, the communication fragment comprising a first target group address reference referring to a ~~group of at least one two receiver device~~devices, the router device comprising:

[[~~-~~]] receiving means ~~(223)~~ being arranged to receive the communication fragment, comprising a ~~first address reference referring to a group of at least one receiver device, the first communication fragment at least partly being protected by a MIC, a cryptographic message integrity code that is at least partly based on the target group address,~~

[[~~-~~]] modifying means ~~(224)~~ being arranged to modify the communication fragment, by replacing the target group of at least one receiver device address by a reference referring to the ~~at least one of the at least two receiver device~~devices, while maintaining the original ~~MIC~~ cryptographic message integrity code without use of a cryptographic key related to the cryptographic message integrity code, and

[[~~-~~]] transmitting means ~~(225)~~ being arranged to transmit the modified communication fragment ~~(213)~~ to the at least one of the at least two receiver devicedevices.

9. (Currently amended) Receiver device ~~(203)~~ being arranged to receive a modified communication fragment ~~(213)~~ originating from a transmitter device through a router device, the modified communication fragment being derived from a communication fragment ~~(211)~~ comprising a ~~first~~ target group address reference referring to a ~~group of at least one~~ two receiver device~~s~~es, the receiver device comprising:

[[~~-~~]] receiving means ~~(226)~~ being arranged to receive the modified communication fragment,

[[~~-~~]] restoring means ~~(227)~~ being arranged to restore the ~~original~~ communication fragment that was used to compute ~~the~~ a cryptographic message integrity code included in the modified communication fragment that is at least partly based on the target group address by replacing an address of the receiver device with the target group address, and

[[~~-~~]] verification means ~~(228)~~ being arranged to verify the cryptographic message integrity code.

10-11. (Canceled)

12. (New) The receiver device according to claim 9, wherein the transmitter device and the receiver device share a common cryptographic key which is not shared with the router, and where the cryptographic message integrity code is computable and verifiable only by using the common cryptographic key.

13. (New) The receiver device according to claim 12, wherein the common cryptographic key is used to encrypt the message content.

14. (New) The receiver device according to claim 9, wherein the receiver device is arranged to restore the communication fragment by replacing the address of the receiver device with each of a plurality of group identities that include the transmitter device to determine which of the plurality of group identities the cryptographic message integrity code matches.